



# 6BG6-GA — 19BG6-GA

## BEAM PENTODE

FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS

**6BG6-GA**  
**19BG6-GA**  
 ET-T970  
 Page 1  
 6-55

### DESCRIPTION AND RATING

The 6BG6-GA is a beam-power pentode designed primarily for use as the horizontal deflection amplifier in television receivers. Electrically and physically, the 6BG6-GA is a replacement for the 6BG6-G; the 6BG6-GA differs primarily from the 6BG6-G by employing a straight-sided T-12 envelope.

Except for heater ratings, the 19BG6-GA is identical to the 6BG6-GA.

#### GENERAL

##### ELECTRICAL

Cathode—Coated Unipotential	<b>6BG6-GA</b>	<b>19BG6-GA</b>
Heater Voltage, AC or DC	6.3	18.9 Volts
Heater Current	0.9	0.3 Amperes
Direct Interelectrode Capacitances, approximate*		
Grid-Number 1 to Plate		0.8 $\mu\text{mf}$
Input		11 $\mu\text{mf}$
Output		6.0 $\mu\text{mf}$

##### MECHANICAL

Mounting Position—Vertical†  
 Envelope—T-12, Glass  
 Base—B8-110, Short Medium Shell Octal 8-Pin  
 Top Cap—C1-1, Small

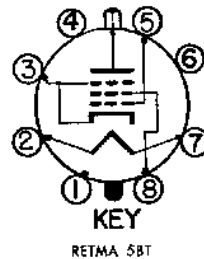
#### MAXIMUM RATINGS

##### HORIZONTAL-DEFLECTION AMPLIFIER SERVICE†

###### DESIGN-CENTER VALUES UNLESS OTHERWISE INDICATED

DC Plate-Supply Voltage (Boost+DC Power Supply)	700	Volts
Peak Positive Pulse Plate Voltage	6600§	Volts
Peak Negative Pulse Plate Voltage	1500	Volts
Screen Voltage	350	Volts
Peak Negative Grid-Number 1 Voltage	300	Volts
Plate Dissipation	20	Watts
Screen Dissipation	3.2	Watts
DC Cathode Current	110	Milliamperes
Peak Cathode Current	400	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid-Number 1 Circuit Resistance	0.47	Megohms
Bulb Temperature at Hottest Point	210	C

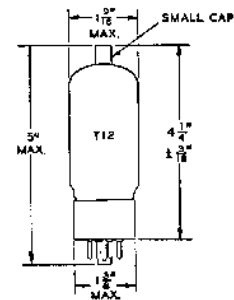
#### BASING DIAGRAM



#### TERMINAL CONNECTIONS

- Pin 1—No Connection
- Pin 2—Heater
- Pin 3—Cathode and Beam Plates
- Pin 4—No Connection
- Pin 5—Grid Number 1
- Pin 6—No Connection
- Pin 7—Heater
- Pin 8—Grid Number 2 (Screen)
- Cap—Plate

#### PHYSICAL DIMENSIONS



Supersedes ET-T925, dated 4-55

**CHARACTERISTICS AND TYPICAL OPERATION**

**AVERAGE CHARACTERISTICS**

Plate Voltage . . . . .	60	250 Volts
Screen Voltage . . . . .	250	250 Volts
Grid-Number 1 Voltage . . . . .	0 $\Delta$	-15 Volts
Plate Resistance, approximate . . . . .	...	25000 Ohms
Transconductance . . . . .	...	6000 Micromhos
Plate Current . . . . .	180	75 Milliamperes
Screen Current . . . . .	18	4.0 Milliamperes
Grid-Number 1 Voltage, approximate $I_b = 1.0$ Milliampere . . . . .	...	-45 Volts
Triode Amplification Factor $\dagger$ . . . . .	...	8.0

\* Without external shield.

$\ddagger$  Horizontal operation is permitted if pins 2 and 7 are in a vertical plane.

$\ddagger$  For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

$\S$  Value given is to be considered as an Absolute Maximum Rating. In this case, the combined effect of supply-voltage variation, manufacturing variation including components in the equipment, and adjustment of equipment controls should not cause the rated value to be exceeded.

$\pi$  In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

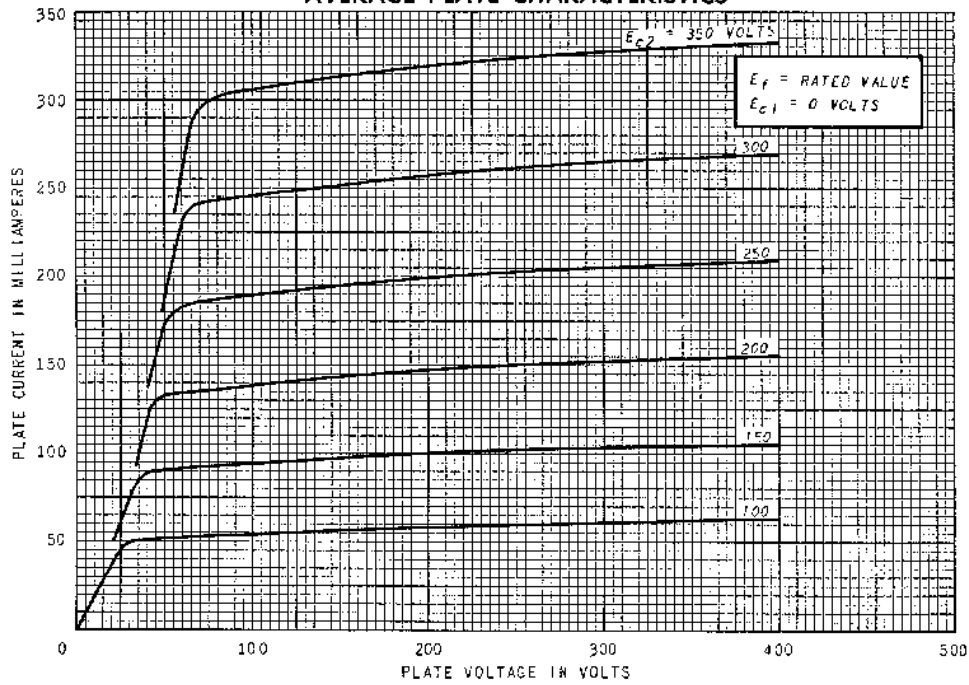
$\Delta$  Applied for very short interval so as not to damage tube.

$\dagger$  Triode connection (screen tied to plate) with  $E_b = E_{c2} = 250$  volts and  $E_{c1} = -15$  volts.

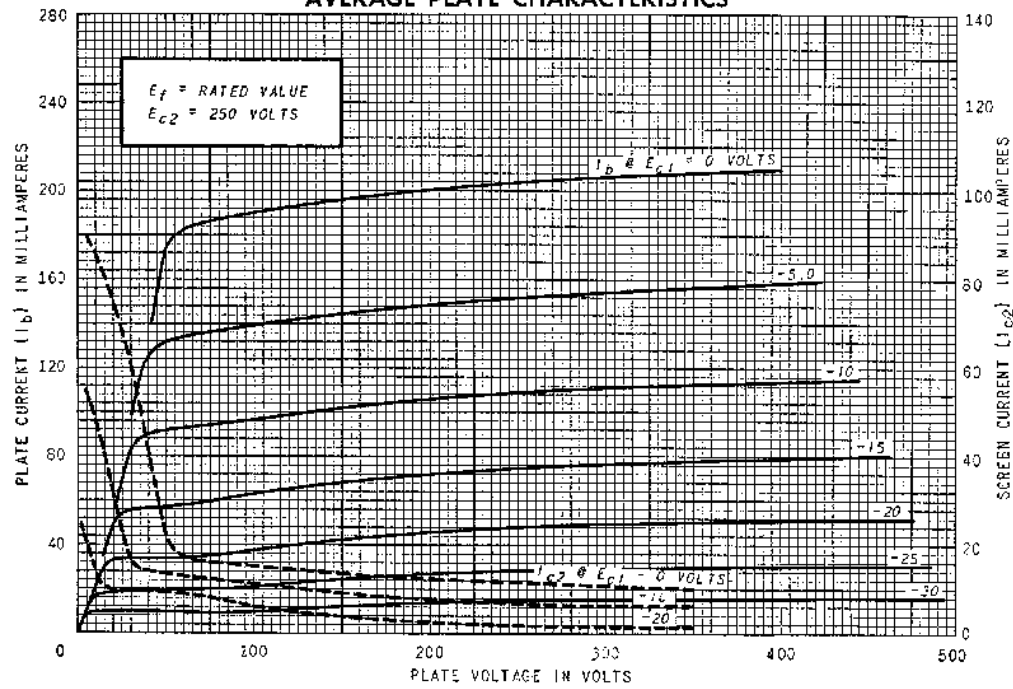
**6BG6-GA**  
**19BG6-GA**

ET-1970  
Page 3  
6-55

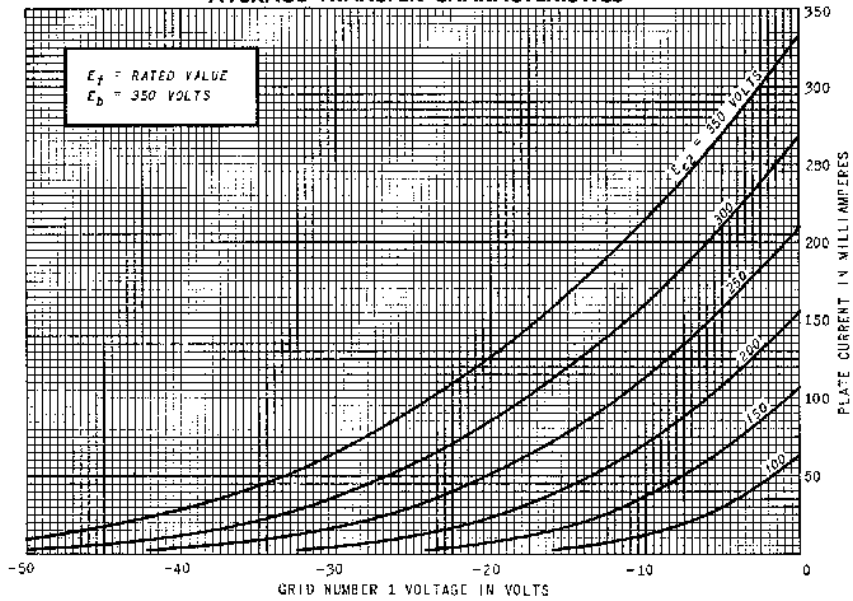
**AVERAGE PLATE CHARACTERISTICS**



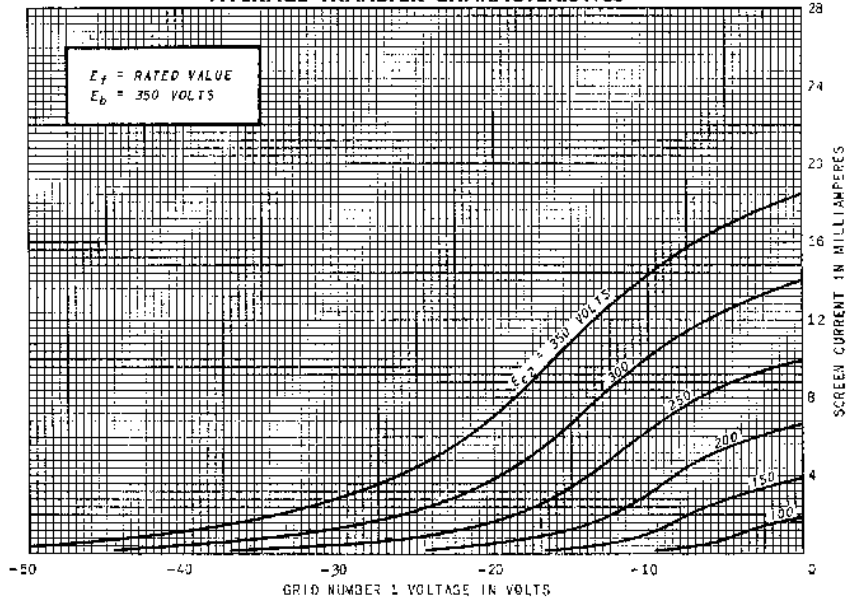
**AVERAGE PLATE CHARACTERISTICS**



**AVERAGE TRANSFER CHARACTERISTICS**



**AVERAGE TRANSFER CHARACTERISTICS**



TUBE DEPARTMENT

**GENERAL ELECTRIC**

Schenectady 5, N. Y.

